



# Instruction Manual

## for

# Monochrome Video Monitor

Dear Customer,

By selecting this product you have decided to use a professional device, which guarantees highest quality and reliability. We would like to thank you very much for your confidence and kindly ask you to **read the following instructions carefully before commissioning**. This enables you to take full advantage of all quality features of this product.

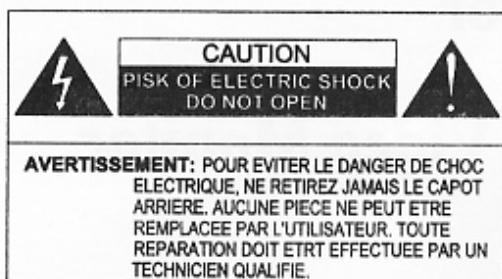
VTM-09 / VTM-09-W  
VTM-12 / VTM-12-W  
VTM-14A / VTM-14A-W  
VTM-15 / VTM-15-W  
VTM-17A / VTM-17A-W  
VTM-20 / VTM-20-W

## **Monochrome Monitor Instruction Manual**

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**WARNING -To Prevent Fire or Shock Hazard, Do Not  
Expose This Monitor To Rain or Moisture.**

### **PRECAUTION**



#### **Graphic Symbol Explanation**

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



### **SCOPE**

The information in this instruction manual covers the installation and operation of the monochrome video monitor. This unit should be installed with approved materials and wiring practices in accordance with the National Electrical Cord and applicable local wiring ordinances.

### **INTRODUCTION**

The monochrome video monitor features with high resolution both at corner & center, which produces crisp and high-quality video images for any installation purpose. For industrial applications, the monitor accepts a standard EIA or CCIR monochrome input signal and loop-through connectors are included with a switchable 75 ohm termination. Operating controls for H-hold, V-hold, brightness, contrast and volume (optional) are located in the front panel for easy access. Furthermore, a regulated power supply maintains excellent performance during fluctuation in line voltage. This monitor is suitable for specialized and industrial CCTV surveillance applications where clear, high quality pictures and proven system reliability are required.

## **IMPORTANT SAFEGUARDS**

All the safety and operating instructions should be read before the appliance is operated.

1. **Retain Instructions:** The safety and operating instructions should be retained for future reference.
2. **Heed Warnings:** All warnings on the monitor and in the operating instructions should be adhered to.
3. **Follow Instructions:** All operating and use instructions should be followed.
4. **Cleaning:** Unplug the monitor from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. Exception. A monitor that is meant for uninterrupted service and that for some specific reason, such as the possibility of the loss of an authorization code for a CATV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging the monitor in the cleaning description otherwise required in item 5.
5. **Attachments:** Do not use attachments not recommended by the manufacturer as they may cause hazards.
6. **Water and Moisture:** Do not use this monitor near water - for example, a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or a swimming pool, etc.
7. **Accessories:** Do not place this monitor on an unstable cart, stand, tripod, bracket, or table. The monitor may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the monitor. Any mounting of the monitor should follow the manufacturer's instructions, and recommended by manufacturer.
8. **Ventilation:** Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the monitor and to protect it from overheating. These openings should never be blocked by placing the monitor on a bed, sofa, rug, or other similar items. This monitor should never be placed near or over a radiator or heat register. It also should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer instructions have been adhered to.
9. **Power Sources:** This monitor should be operated by the power source indicated by the manufacturer's label. If you are not sure the type of power supply to use, consult with your dealer or local power company.
10. **Grounding or Polarization:** For monitors equipped with a 3-wire grounding type plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace the obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
11. **Power:** Cord Protection-Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to power cords at plugs, convenience receptacles, as well as where they exit from the monitor.

12. **Power Line Surges:** For added protection for this monitor during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent lighting and power-line surges monitor damage.
13. **Overloading:** Do not overload wall outlets and extension cords, overloading can result in a risk of fire or electric shock.
14. **Object and Liquid Entry:** Do not insert objects of any kind into this monitor through openings may could result in a fire or electric shock. Avoid spilling liquids on this monitor.
15. **Servicing:** Do not attempt to service this monitor yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. **Damage Requiring Service:** Unplug this monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions.
  - a. When the power-supply cord or plug is damaged.
  - b. If liquid has been spilled, or objects have fallen into the monitor.
  - c. If the monitor has been exposed to rain or water.
  - d. If the monitor does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the monitor to its normal operation.
  - e. If the monitor has been dropped or the cabinet has been damaged.
  - f. When the monitor exhibits a distinct change in performance - this indicates a need for service.
17. **Replacement Parts:** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock or other hazards.
18. **Safety Check:** Upon completion of any service or repairs to this monitor, ask the service technician to perform safety checks to determine that the monitor is in proper operating condition.

## ACCESSORIES

This package is basically including:

- 1 x monitor
- 1 x instruction manual
- 1 x power cord

## FEATURES

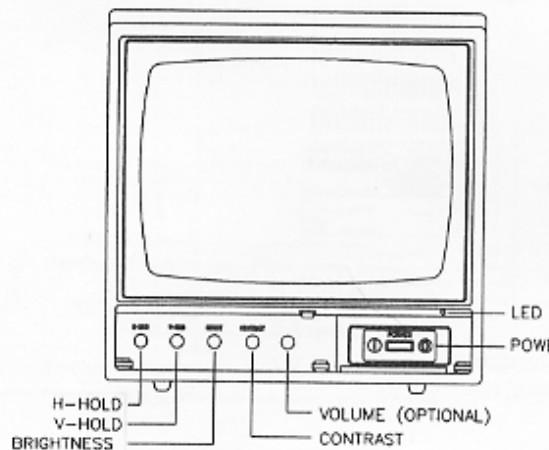
- High resolution
- Steel cabinet with plastic front panel
- Convenient front panel controls
- With carrying handle at top or both sides
- 75Ω high-impedance termination switch on rear
- For application with CCTV type cameras
- With optional audio function

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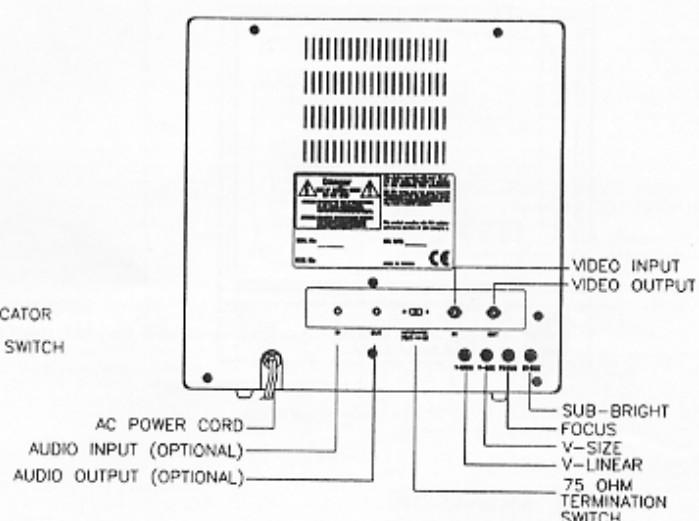
### **Panel Description and Function**

#### **Front Panel Controls**

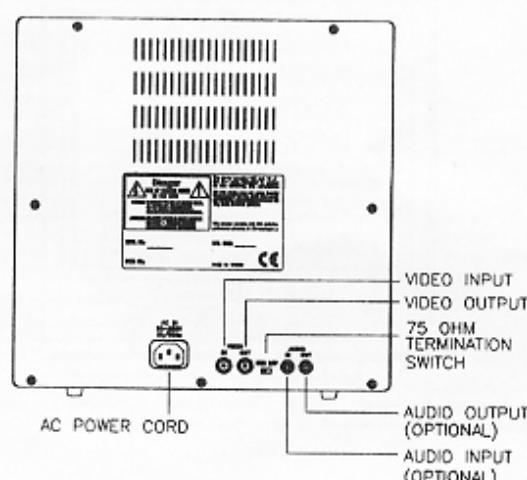
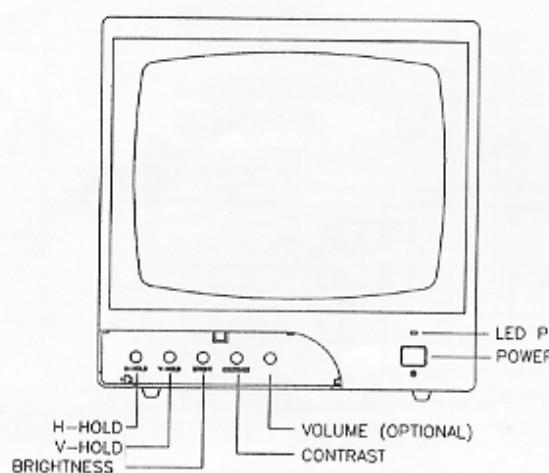
##### 9" 12" MONITOR



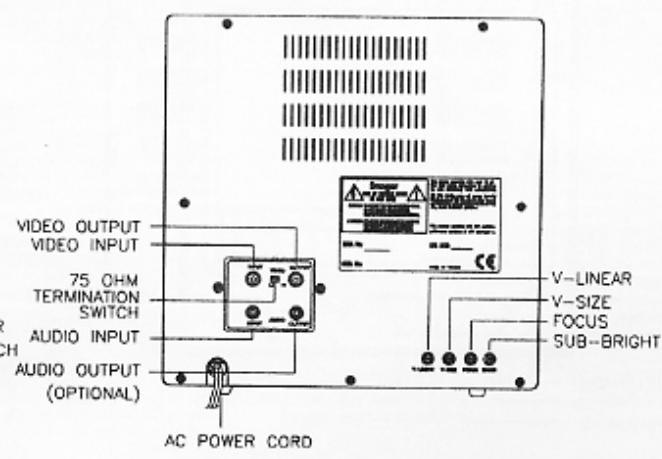
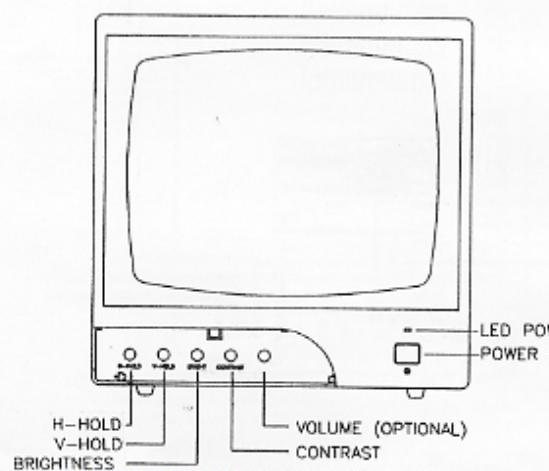
#### **Rear Panel Controls**



##### 9" 12" MONITOR



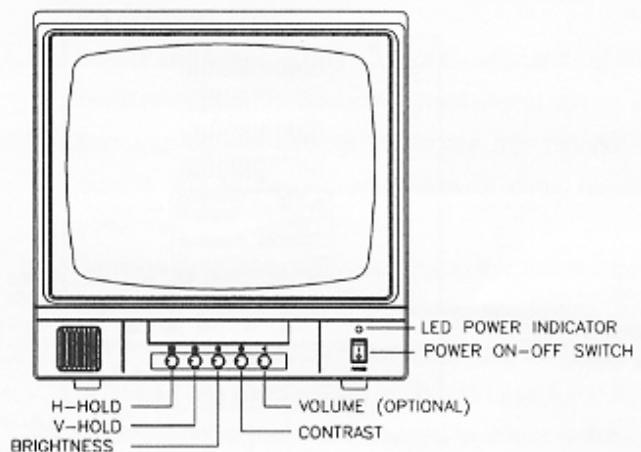
##### 9" 12" MONITOR



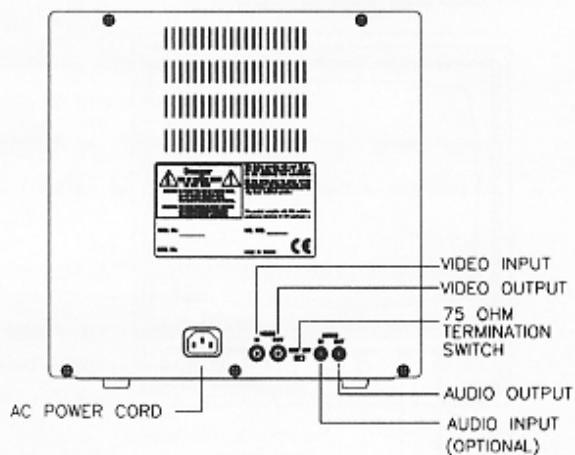
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### **Front Panel Controls**

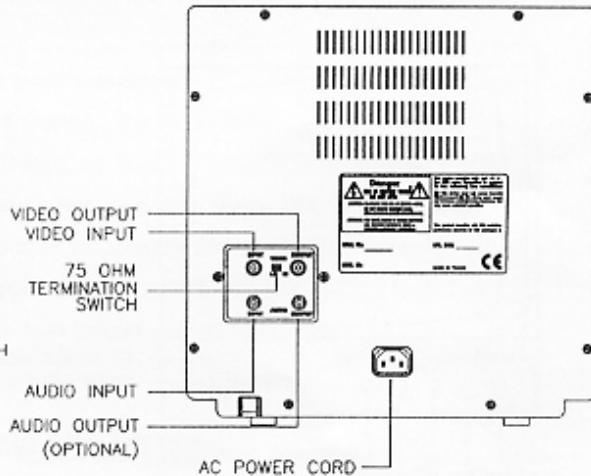
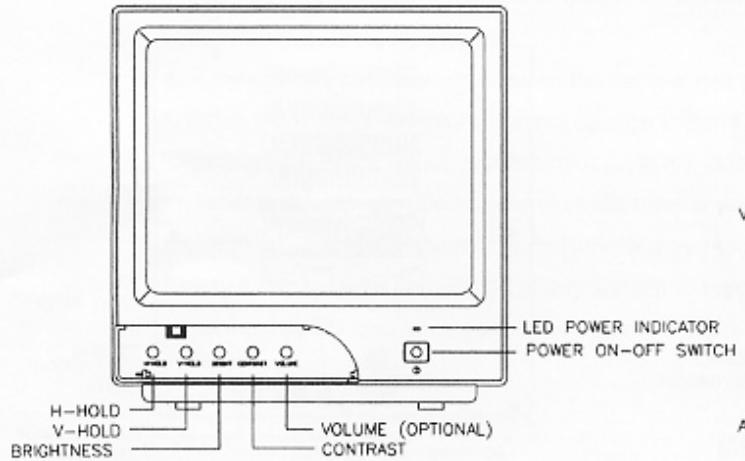
#### 9" 12" MONITOR



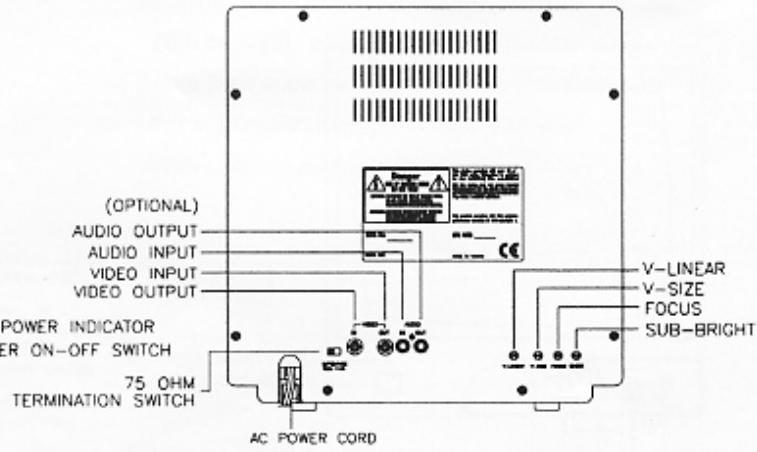
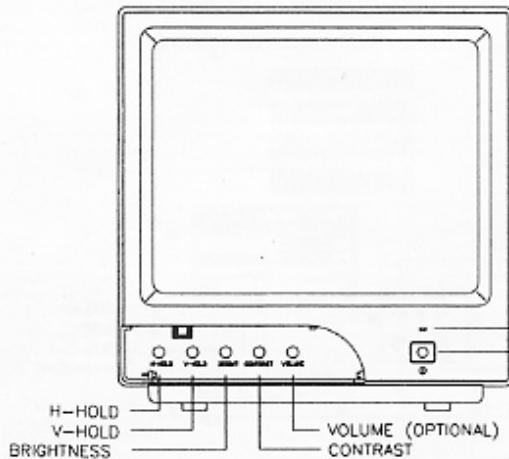
### **Rear Panel Controls**



#### 14" MONITOR



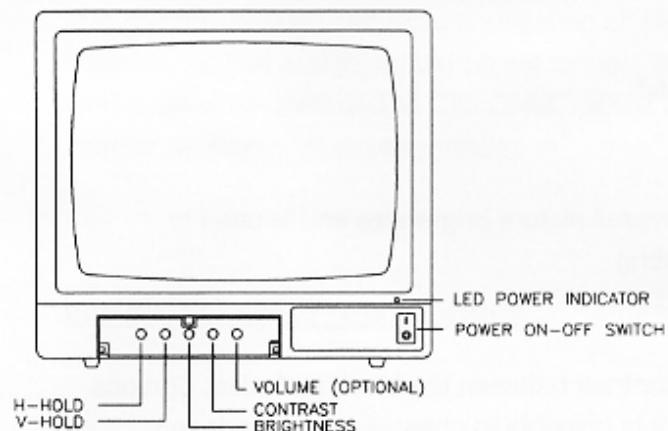
#### 14" MONITOR



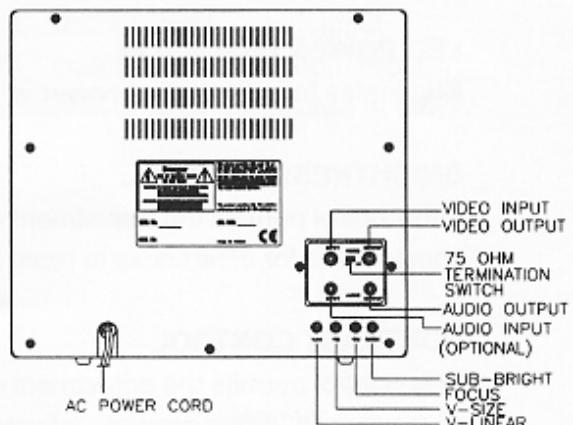
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### **Front Panel Controls**

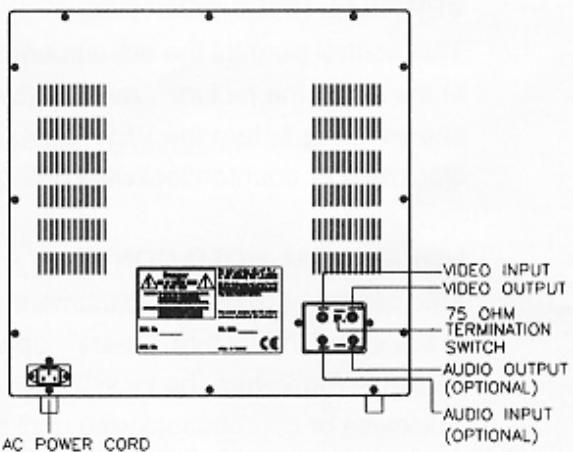
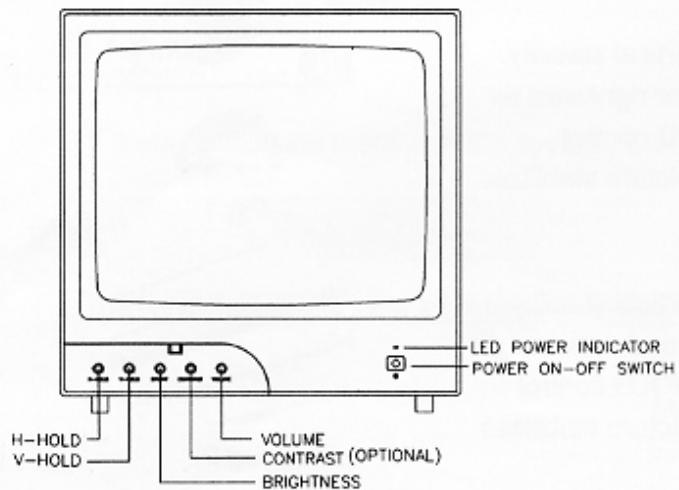
#### 15" MONITOR



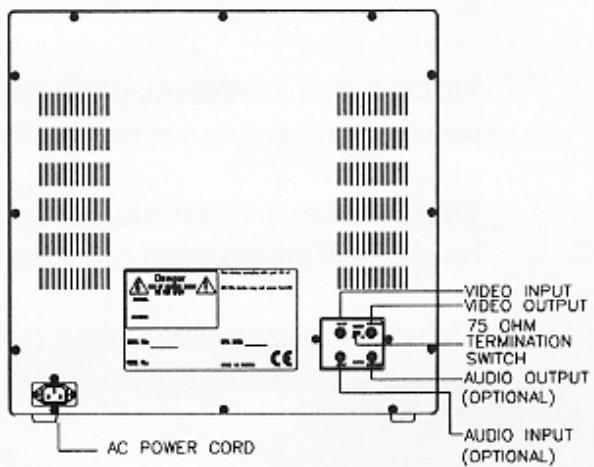
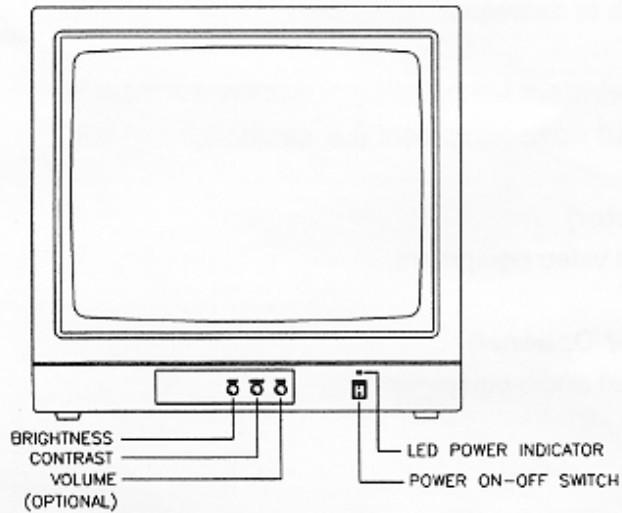
### **Rear Panel Controls**



#### 17" 20" MONITOR



#### 20" MONITOR



## **IDENTIFYING MONITOR CONTROLS**

### **POWER ON-OFF SWITCH**

This switch provides on-off control.

### **LED POWER INDICATOR**

Illuminates to indicate that power is "ON".

### **BRIGHTNESS CONTROL**

This control permits the adjustment of overall picture brightness and is used to compensate for differences in room lighting.

### **CONTRAST CONTROL**

This control permits the adjustment of contrast between the black and white portions of the picture. When properly adjusted, it is possible to observe a fine gradation between blacks, grays and whites.

### **VERTICAL HOLD CONTROL**

This control permits the adjustment of vertical stability.

In the event the picture "rolls" leftward or rightward as shown in Fig.1, turn the VERTICAL HOLD control clockwise or counterclockwise until the picture stabilizes.



Fig.1



Fig.2

### **HORIZONTAL HOLD CONTROL**

This control permits the adjustment of vertical stability.

In the event the picture "tears" upward or downward as shown in Fig.2, turn the HORIZONTAL HOLD control clockwise or counterclockwise until the picture stabilizes.

### **VOLUME CONTROL (Optional)**

This control permits the audio volume control. Turn clockwise to increase the volume and counterclockwise to decrease.

### **VIDEO INPUT TERMINAL (BNC Connector)**

connect with the output terminal of the related video equipment (i.e. camera).

### **VIDEO OUTPUT TERMINAL (BNC Connector)**

connect with the input terminal of the related video equipment.

### **AUDIO INPUT TERMINAL (RCA Connector-Optional)**

connect with the output terminal of the related audio equipment.

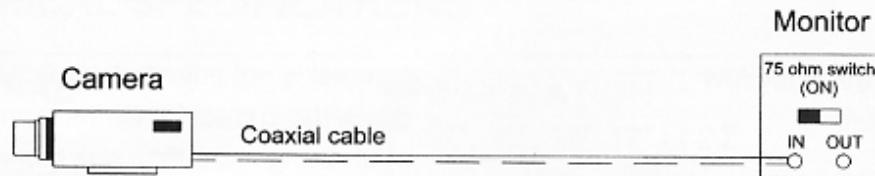
**AUDIO OUTPUT TERMINAL (RCA Connector-Optional)**

Connect with the input terminal of the related audio equipment.

**75 OHM TERMINATION SWITCH**

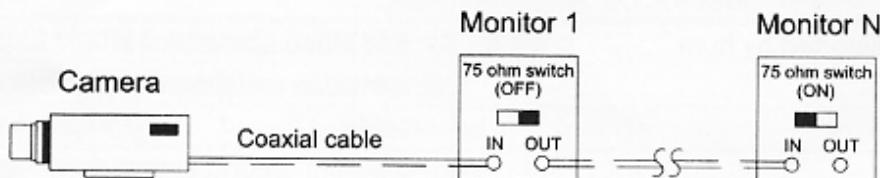
This switch provides convenient selection of "HIGH" or "75 OHM" video input impedance. The switch should be set to the "HIGH" position when the loop-through configuration is used and to "75 OHM" when video signal is to be terminated at the monitor as shown as below installation.

**Installation with one monitor**



If there is only one monitor in the system, set the 75 Ohm termination.

**Installation with two or more monitors**



If there are several monitors in the system, set the 75 Ohm termination only at the last monitor (N).

**Troubleshooting section**

<b>Failure description</b>	<b>Possible cause</b>
The power LED is not light	- the mains plug is not connected - the power switch is set to off - the power LED is defective
No picture with power LED light	- the coaxial cable of the camera is not connected to the monitor - the camera provides no signal
The picture is too bright / dark	- brightness is not adjusted correctly - contrast is not adjusted correctly
The contrast is too low	- contrast is not adjusted correctly - check the correct 75 Ohms termination when using more than one monitor - sunlight interferes with the picture
The contrast is too high	- contrast is not adjusted correctly - 75 Ohms termination of the last monitor is not set
Ghost image	- 75 Ohms termination of the last monitor is not set
Picture distorted by hum	- bad video connections - transition resistance on the coaxial cable - different ground potential camera and monitor (use optocoupler or galvanic transformer)
The picture rolls vertically	- V-hold is not properly adjusted
Geometric distortion of the picture to the left or right	- H-hold is not properly adjusted

If none of the above remedies do not solve your problem, please contact your dealer with an exact failure description.

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### **OPERATION**

1. To install the monitor as outlined in the section of installation. Be sure that the termination switch is set to "75 OHM" or "HIGH" position as required, and that a standard 1.0 Vp-p video signal applied to the monitors VIDEO INPUT.
2. To turn the monitor on, press the "POWER" switch. Observe that the LED power indicator illuminates.
3. To adjust the brightness and contrast controls to obtain optimum picture quality.
4. The monitor should now display a bright, clear picture. Should poor picture quality be observed, check the camera or other video source for proper adjustment.

### **TECHNICAL SPECIFICATIONS**

<b>GENERAL</b>	<b>SPECIFICATION</b>
Screen size	9", 12", 14", 15" ,17" or 20"
Power source	AC120V ±10%, AC230V ±10%, AC100~240V
Input signal	0.5~2.0 Vp-p composite video
Input impedance	75Ω switchable
Resolution	1000 lines
Video gain	30dB
Linearity	Horizontal: 15% maximum Vertical: 10% maximum
Scanning system	EIA, 525 lines, 60 field/sec. CCIR, 625 lines, 50 field/sec.
Audio input signal (optional)	10~150m Vp-p
Audio amplifier (optional)	1W/8Ω
Speaker (optional)	Included
Operation temperature	-10~50°C (14~122°F)
Power consumption	19.5W / 20.5W / 20.2W / 18.8W / 18.5W / 28W

### **TECHNICAL SUPPORT**

Should you have any problems during installation, please contact with your dealer.

### **YOUR NOTES**